



THE RARA RAG

Newsletter of The Rochester Amateur Radio Association, Inc.
Founded in 1931

SOUNDCARD BASED SDR TRANSCEIVERS

TIM GUYOT, KB1POP—RARA VICE PRESIDENT

For those that aren't familiar, SDR stands for Software Defined Radio; a radio where the RF components are physical, but everything else can be handled in computer software. There are two major categories: Direct sample, where the analog to digital (A/D) and digital to analog (D/A) are done in the external hardware, or soundcard-based, where the A/D and D/A and all of the modulation, filtering and other processing are handled in the computer.



Soundcard based SDRs tend to be more affordable, and a great way to get on the air. This month, we have Jim Veatch, WA2EUJ, who has designed his own soundcard-based SDR giving a presentation. He'll be digging into the details of sound card SDR, including a discussion of the difference between direct-sample and sound-card-based designs, the experience of designing his sound-card-based SDR, the RS-HFIQ, and how each stage of a sound-card-based SDR functions. He'll also cover computer hardware requirements, and touch on the software options.

According to his bio on hobbypcb.com: Jim is an "ARRL member and Extra class licensee [who] received his first call sign in 1976. He is an avid kit builder and homebrewer and enjoys experimenting with and applying new technology to Amateur Radio projects. Jim holds an Associates Degree in Electronic Technology as well as a Bachelor's of Science in Electrical Engineering. Jim's ham radio projects have won awards in all three ARRL Homebrew Challenges. At HobbyPCB, Jim is responsible for RF design, new product development, kit buildability, amplifier whispering and wrestling the smaller alligators. Jim lives with his family in the Baltimore, Maryland area."



Please join us for this month's presentation from a guy that really knows SDR top-to-bottom, (Or computer-to-airwave) on January 3rd, 2018.

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BOARDZ BUZZ

TIM GUYOT, KB1POP—RARA VICE PRESIDENT

I picked up a great looking new-to-me Kenwood TS-440S and matching power supply at this year's RARA Auction. Now that I've got my Christmas shopping done, I've had a bit of time to test it out, but there's an extra challenge... I sold my house in the summer without finding a new house first, so we're living the spare bedroom of a friend's house, and almost everything, including my ham supplies, are in a storage container.



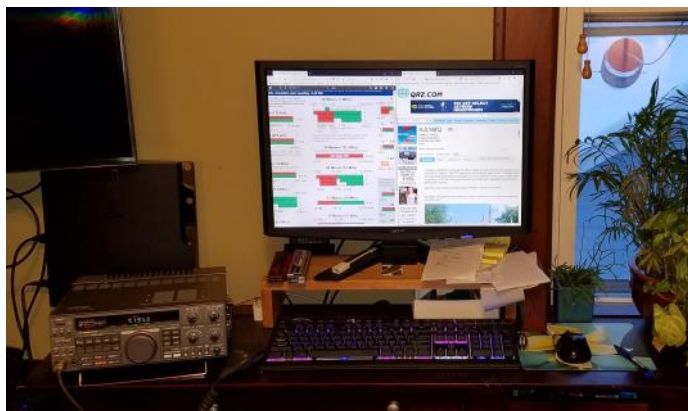
My challenge was to get on the air as fast as possible, with almost no supplies and only simple tools. Having only operated HF once in the past at K2GXT, an established station, I had to start with a bit of research about what kind of antenna I could build easily to operate HF on a fairly small city lot.

I settled on an inverted-V design for 40 meters with an air-core choke at the feedpoint. I stopped into Goldcrest Electronics in Rochester and picked up some RG-58, a PL-259, and about 70 feet of 20 or 22 gauge transformer wire. These are all supplies I normally have on hand, but I'm happy I was able to get them locally while all my stuff is in storage.

I was going to wind the choke on a length of PVC pipe, but as I was getting ready to cut the pipe, I found a plastic jar of about the same diameter that was already the right length, and would be much lighter to string up. I put 15 turns of the RG-58 around it and added simple terminals made of nuts and bolts to connect the elements to. I used several calculations that indicated the elements should be between 31 and 33 feet, so I erred on the longer side knowing I could trim it down to tune it. It was difficult to keep the transformer wire from kinking while cutting it to length and getting it connected to the terminals. Eventually I got everything outside and untangled. Hanging the antenna was easy. Because it is so light, I was able to use 50lb monofilament fishing line and skip insulators.



It was time for the moment of truth. I connected the antenna and hit tune. (Again my antenna analyzer is packed away, so using the radio is the only way to test.) The tuner had no trouble bringing the SWR right down to 1:1.



Great I thought; time to tune around and see about making a contact. What did I find? Noise. Lots of noise. I decided to check out some other bands that the antenna should work on (as long as the tuner was happy) like 20 meters. Just more noise. After spinning the dial for about an hour, as I was starting to feel defeated, I heard what I thought was RTTY. I quickly found an RTTY app for my computer and put my microphone on the radio speaker. I had stumbled on a RTTY pileup to W9IU in Kokomo Indiana. In a matter of minutes, I saw over 20 confirmed contacts from all over the North East, the Czech Republic, Italy, and Germany. It was amazing to me how well the computer was able to discern the signal in the noise. This opened a whole new world of possibilities for me. Feeling good about hearing from around the world, I called it a night.

CALENDAR OF EVENTS

JANUARY 3RD - RARA General Meeting

7:00 PM at BSA Headquarters, 2320 Brighton Henrietta Town Line Rd

JANUARY 4TH - RARA Board of Directors

5:45 PM at Novaworks, 333 Metro Park, F-500

JANUARY 13TH - RARA Academy

10:00 AM at BSA Headquarters, 2320 Brighton Henrietta Town Line Rd

The next morning, I got back to what seemed like endless spinning of the dial. I stumbled on the ECARS net on 7.255MHz, which was being controlled by KA1MQ from Hudson, NH and was able to check in. I received an excellent signal report, and was gleeful. My \$25 built-and-installed-in-a-day antenna was working!

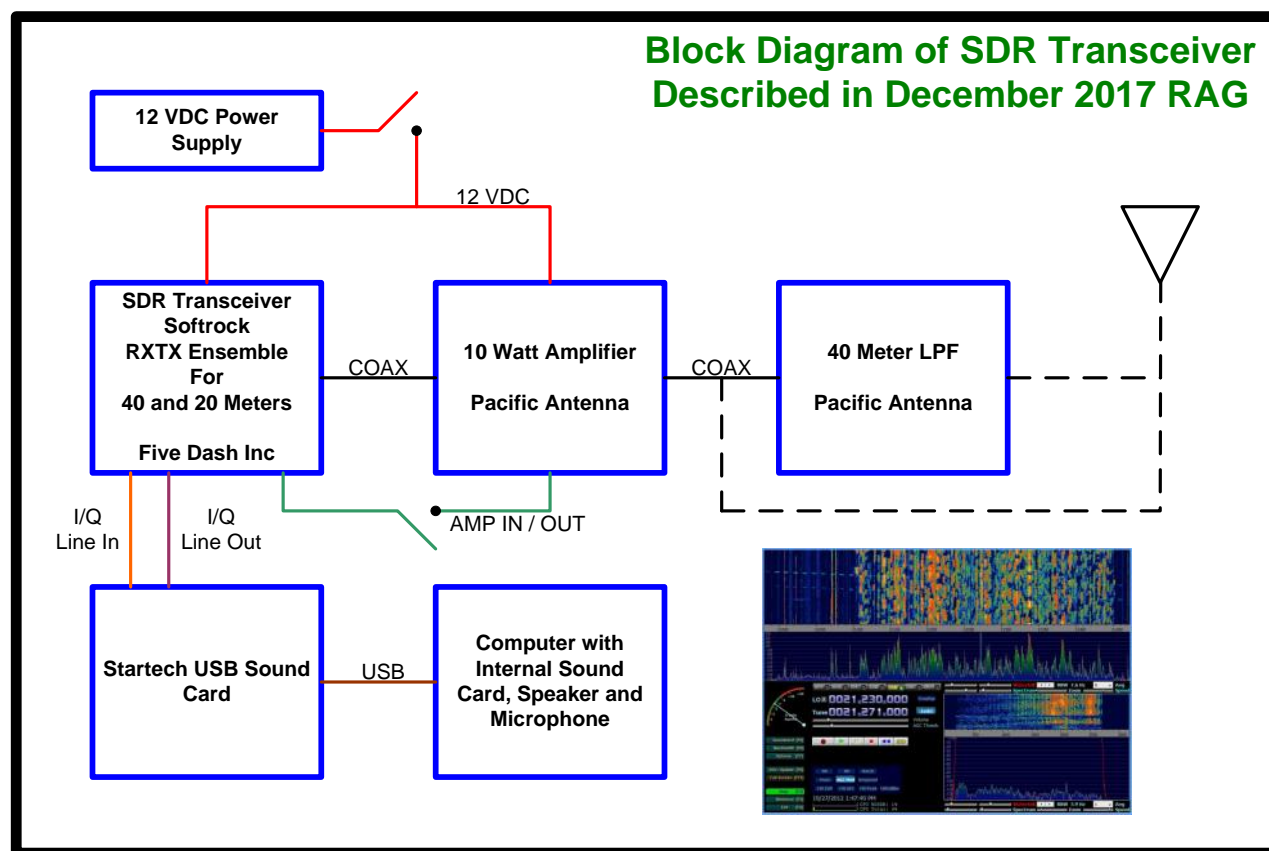
That brings me to now. I'd like to borrow an analyzer to get the antenna tuned better, but my main focus for the next few months will be RARA. We have a lot going on!

Winterfest: Just a little over a month away, I only have a bit of shopping left to do, but I also need to find some volunteers to help set up the lodge and our radio. I heard that antennas installed in the dead of winter, preferably in a bone-chilling wind, perform the best.

Hamfest: There's a lot left to do here. We have some venue ideas, but haven't contacted them all yet. Once we find a venue, we'll need more volunteers to start planning and coordinating the details. Permits, parking, food, talk-in, raffles, door prizes, publications, volunteers for setup, and volunteers for the day of the hamfest. (I'm sure I missed a few) There's a lot to be done, and we need your help to make it happen. If you're interested in helping in any way, please e-mail hfproducer@rochesterham.org. We'll have more details at the beginning of this month's meeting.

Presentations: As Vice-President, one of my duties is finding topics and speakers for the meetings. I've got the next two months covered, but if you have a topic that you would like to present on or something that you would like to hear about, please e-mail vicepresident@rochesterham.org and I'll add you or your suggested topic to the list.

License Classes: This is the one area where I'm not soliciting help. Instead, I'm going to be a student to refresh my knowledge, and to prepare to teach in the future. Classes are currently scheduled to start on February 20th. Contact our education coordinator, Tim Brown, to sign up!



YOU GET WHAT YOU PAY FOR

Don Kiser, AC2EV

Recently I was building a project and found that I had the need for a desoldering iron. As this would probably be the only time I needed one I decided I didn't want to spend a lot of money. Usually I try to buy quality tools that will last but this time I chose not to. That was a mistake.



My current desoldering pump had a much worn tip and finding a replacement tip proved difficult. This desoldering pump was well made out of heavy aluminum and the tip was made to be replaced, when it was bought new in 198x. I've since discovered that it was made by Weller. Since my de facto supplier of one time use tools, Harbor Freight didn't have what I needed, I found myself on eBay and came across 'an offer too good to refuse'.

While caveat emptor wasn't in the title "Solder Sucker Desoldering Pump Tool Removal Vacuum Soldering Iron Desolversic BFD9", was.

For the low price of \$5.99 plus \$1.99 shipping, I figured I couldn't go wrong. After all, I did get to write this snarky article about it and only the finest engineering tools come direct from China, right?

Top text was in Chinese.
I had Google Translate it

For those of you that are paying close attention you'll have probably noticed that this particular unit is rated for 220VAC which is the standard operating voltage in China. That little nugget of information was buried deep in the description and not on the front page of the auction. The product picture did not show the packaging. I noticed this after waiting 10 minutes for it to heat up only to find was barely warm.

Being the inquisitive type I thought that maybe I could rewire it to work on 110VAC or least take it apart and see how it works.



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Let's get to the teardown to see what makes this thing a ticking time bomb.

It takes only 3 non-centered screws to remove the heating element from the end. You'll see they provided ground wire that would attach to the iron's frame. The instructions, in Chinese, after translation implore the user to be sure to connect this to a suitable ground.

After removing the 3 screws, I gently pulled on the heater element and was presented with the image below. I wondered to myself as it pulled out with ease how it was connected at the other end. Surely, a 'FOR INDUSTRIAL^{sic} USE ONLY' product would be of the highest caliber design.



It took me a few more minutes to remove the solder sucker portion and a few screws to discover the industrial strength connection method used.



With the solder sucker removed, I found the insulation sleeves that didn't get removed with the wire.

That black portion on the end, with the 4 screws, is where the heater wires connect to the 220VAC err, 110VAC.

Upon opening it, I find the lack of any mechanical fastener, soldering, or otherwise. That is unless you consider folding the wires over a suitable method of fastening. Also, you'll notice that the mechanical holding (strain relief) of the mains wire is minimal. One good tug or tumble off the workbench and a bright flash of light and smoke is sure to follow, along with having the lights go out when the circuit breaker trips. Possibly, some profanities as the hot end of the iron lands on your foot or burns its way into the carpet. A fun night for all, indeed!



Here I've re-wired it to factory specification to showcase the laborer's workmanship. I'm sure UL would certify this without any issues.

The heating element wires are wrapped around the iron in a non-conductive sheet. I will surmise that this is likely 24AWG Nichrome wire. In case you didn't know, patented in 1905, Nichrome is the oldest documented form of resistance heating alloy ^{Wikipedia}.



I measured out the wire and it's around 2200Ω. Doing the math that does not work out to the claimed 30W, close enough. Here is where the engineer in me wants to experiment and remove about 1100Ω of wire to see if it performs well at 110VAC. However, having discovered its lack of safe design practices and the inherent chance of being electrocuted, it will be tossed in the garbage can or perhaps I'll place it on the shelf as a reminder to not buy crap.



The Solder sucker portion is also built to the same exacting standards. While it does draw a vacuum, since it's held into the handle they saw no need to design threads into the unit. It mates to the iron via small piece of silicone so no point in using it alone.

As it turns out I was able to find a tip for my original desoldering pump. I did however, end up buying a whole new desoldering pump and threw out all but the tip as the quality of the new pump was just as questionable.

PUMPKIN PATROL 2017

Brad Allen, KB2CHY

I have enjoyed my time as the Captain of the Pumpkin Patrol. Over the years we have gone from a task of stuffing large envelopes and snail mail to a fairly efficient method of emails. We have also been instrumental in the startup of the Goodie patrol which is actually a very important arm to not only stop at all locations to chat, allow someone a stretch break, bring goodies and something hot as well as seasonal fruit and cider. This year we added fruit Granola Bars which was an off the top of the head idea for the second evening to see how it went over. They went over quite well.

I also wish to thank each and every one of you for the support each and every year, this is a very large group of helpers and it has many repeat personal for many years. Thank You for providing the help.

I plan on stepping down in the 2018 year. All info has been given to Mike Moore to help the person taking my place and of course I will help in the planning if needed as well as answering any questions from the new person.

The new person must be dedicated to the service. This means there are rules to follow behind the scenes as well as the need to start notifying people as early as the August meeting. We had a lot of newcomers or some who worked the event at one time and then came back. The need is for 26 or so dedicated hams dedicated to the event.

I wish to thank Mike Moore for helping out this year as I wanted to be with my Grandsons this year on Halloween. It was a good night and something I missed for 5 of his 8 years. Thanks for understanding my reason to take a break. I had my handheld with me and was monitoring, but my focus was on the Grandsons for a couple hours. I did not realize what I had missed till this year.

Again thanks to all who have stepped up every year for me and I hope you provide the same dedication to whoever takes over for me for the future.

PROTECTING ANTENNA BALUNS FROM WEATHER, & OTHER DIPOLE TRIVIA

Bill Hopkins AA2YV

At the monthly RARA meetings, Forest Shick, RARA president, solicits updates from members on their recent builds, repairs and ruminations. I weighed in on my recent antenna construction.

My two main challenges for the 80-meter all band dipole fed with ladder line were first, how to bend the ends downward to squeeze it into the limits of my QTH micro-grid square. Second, I needed a housing for the 4:1 Current Balun to protect it from the wind and weather. I decided that a plastic gallon milk bottle couldn't adequately do the job.

No. 1: Bend It and the Signals Will (Still) Come

To solve the first challenge, I bent one end down more than the other, because the higher tree permitted a longer run along the tree trunk. (An extra insulator inserted at each bend point and an insulated solder job does the trick.) This, of course, makes for a slightly unbalanced arrangement. Dipoles with ladder line or open line are especially susceptible to variations in this department. But my LDG tuner easily steps in and tunes it up. The 450-ohm line at 39 feet to the 4:1 balun is a good length; it attenuates radiation on the standard bands. The feed drops down vertically under the antenna – 37 feet high at its center, swings away in a droopy sag, perpendicular to the antenna and attaches to the balun that is mounted on a pole right outside the hamshack window. From there, a 15 foot length of coax runs to the rig setup. So far, so good.



BTW, a Light, Unsupported Skyhook

By the way, what about that ever-pesky problem of attaching 450-ohm ladder line at the antenna feed point? I always "roll my own" on this leg of the job. I construct a fat "T" out of Lexan plastic, cut a rectangular hole at the top to fit the center insulator, and drill three sets of holes down the leg of the "T" to affix the ladder line with large black plastic ties. This arrangement protects the feed line from twisting and breaking. I keep the "T" small enough to reduce wind drag. (One such arrangement stayed up for ten years, before its owner took it down!)

No. 2: A Good Balun Box

And now for the second challenge. An expensive 4:1 or 9:1 current balun must be protected from the elements. It usually sits outside the shack to prevent the ladder line from contacting any metal objects, like a window frame. Mine is now mounted at about six and one half feet above the ground on a pressure-treated two-by (a 4x4 would be

better). This is where a good protective box comes in.

I finally located one at Harbor Freight. It is a black plastic watertight "Apache 1800" Weatherproof Protective Case, an all-purpose enclosure usually used for cameras and other sensitive equipment. Its cost was only \$15. It has a product number, 63518. (You can find it online.)

I simply centered the balun in the box to mark for the 4 mounting holes. Then I drilled four more holes at the perimeter to attach to the 2X4. A hole drilled directly opposite the coax feed input and a slit in the box lid for the ladder line were the only necessary mods. (I made sure that the ladder line falls away slightly from the box to prevent water on the line from running back into the box.) I used stainless steel screws and bolts to prevent rust over time.



Had Your Fill of Tree-Climbing?

How did/do I get my antenna into the trees? Simple. I attach a mid-size graduated rubber stopper (with a hole drilled through its middle) to a 20lb monofilament fishing line, using a small fishing swivel-and-hook, all obviously attached to a rod and reel. With practice I have been able to put the hard rubber weight over my tree branch of choice. If/whenever I fail, I simply walk over, remove the weight from the line, reel it in and try again. My weight and line have "never" got snagged in a tree. I can throw a line to an almost 50ft height. First I pull across a light nylon cord and with that I can drag over my black Dacron rope-hose arrangement. And we're ready to "haul it all up."

String it Right

One last point about the antenna is in order. I learned a long time ago not to rely on simple rope over branches; they fray and break within a year. I now use black Dacron antenna rope that promises longer use. The rope acts like a lanyard. I run it through a 6-foot length of clear dehumidifier drain hose (not garden hose!) and knot it big-time at either end so that the hose won't slip on the rope when it all finally sits atop the crotch in the tree branch. The other trick is to create a non-slip loop up close to the hose and attach a good plastic pulley. With the pulley I can raise and lower the antenna at will and leave the lanyard in place over the tree. All this demands more (black) antenna rope, but it's well worth the added effort.

Some Encouragement

Just remember, as Dick Goslee, KG2I, will tell you, winter is not a bad time to work on antennas, as the "antenna gods" are particularly kind in Northern New York at this time of year.

USING A DRONE TO SEARCH FOR A DOWNED BALLOON

Jon Dickason, N2JAC

I recently learned of a ham balloon launched from Toronto and possibly landed in western NY. Steve KA1CNF and I discussed it at the last XARC meeting. We have worked with some balloon flights before and decided to try and find the balloon that was last heard near Williamson. It was not a high altitude helium balloon, which is designed to rise rapidly to 100,000 feet, then burst and parachute back to Earth. This was designed by Dave VE3KCL to go long distance over many days; his previous balloon went to Kazakhstan. It's a very small and light (Dave says less weight than a house sparrow) solar powered transmitter, sending a WSPR signal on 20 meters. Unfortunately, the WSPR format only sends the grid square location, not a complete GPS coordinate, so we knew it was in a 7 by 5 Km rectangle near Shepherd Rd. in Williamson, between route 104 and Lake Rd.

KA1CNF drove around the area Friday and spoke about it with a couple hams on the repeater who listened for it on 20 meters but did not hear a signal.

VE3KCL has launched similar balloons that have crossed the Atlantic and almost made a complete orbit of the planet. He thinks the solar panel may have broken in high winds, but was concerned that if they didn't, the transmitter might cause interference to other hams.

I asked Bob, K2OID, if he'd like to take his drone up to see if we could see it with the drone's camera. We went out on Saturday after looking to see where the likely landing zone would be, figuring the wind direction and altitude of the last position beacon. Bob flies a DJI Phantom 3 with a high def camera. I listened with my HF portable while Bob piloted the quadcopter. We flew for about 15 minutes, watching the live video on an iPad, and then viewing it later at Bob's house. We only covered a frac-



tion of the possible landing zone, but we were hoping the Mylar would catch the sun's reflection and be easy to see. Even though we didn't find evidence of the balloon, it was a fun experiment and we learned more for future search operations.

Dave's payload uses a QRP Labs transmitter and an Arduino Nano controller to generate the WSPR signal. WSPR stands for Weak Signal Propagation Reporter, a digital mode invented by Joe Taylor, K1JT, for automated propagation reports. It is a popular mode for long distance balloon flights because the weak signal is easily decoded from far away, and can carry some telemetry. VE3KL said the last reports from the downed balloon were received in Spain. Dave uses homemade Mylar balloons or party balloons to carry the lightweight payloads for thousands of miles, although they are frequently lost in oceans or wilderness. He doesn't usually expect to get them back, and the electronics are fairly inexpensive. On future flights he may find a way to send a full GPS coordinate in CW or another digital mode.



2018 SPRING LICENSE CLASSES

Tim Brown, WB2PAY, RARA Education Coordinator



General Class KF7LUA

If you are looking to learn new skills, upgrade your license, make new friends, and have some fun, sign up for the Spring session of RARA's license classes.

Amateur Technician, General and Extra Licensing classes will commence at 7pm on Tuesday February 20, 2018.

Classes will be held at RIT in the GLEASON building, room GLE 3129.

Licensing courses are FREE to current members and only \$15.00 for non-members.

Not a current RARA member? Membership starts at FREE! <https://www.rochesterham.org/membership.htm>

2018 RARA ACADEMY

Tim Brown, WB2PAY, RARA Education Coordinator

The "Break Activity" during the December meeting sparked a lot of interest and questions about Power Supplies and Battery Technologies.



Our first RARA Academy session of 2018 will be at the BSA Headquarters on January 13, 2018 from 10AM to noon.

The topics for the January 13th session will include:

- Switching and Linear power supplies - characteristics & benefits
- Battery Technologies: Lead Acid, Gel Cell, AGM and Lithium
- Characteristics and uses for these various technologies
- QRP low power sources and Solar Power
- Power Pole connectors and DC Distributions Systems
- Charging systems: Battery Tender, Solar, Power Gate, Battery Boost
- HV power supplies and HV Test equipment
- SAFETY in all power systems

A SHOW and TELL period will be included in the session.

XARC AT THE ROCHESTER MINI MAKER FAIRE

Jon Dickason, N2JAC

XARC was at the November 18th Rochester Mini Maker Faire again this year with code keys for kids to build. The middle school age kids enjoyed discovering Morse code, and building and decorating their key. Maker Faire is called the Greatest Show (& Tell) on Earth - a family-friendly showcase of invention, creativity, and resourcefulness. There were electronics, robots, arts and crafts, and a 19 foot tall fire breathing dragon. rochester.makerfaire.com



Silent Key

Charles H. Wells
KB2SOX

December 11, 2017

2018 PUBLIC SERVICE

Mike Moore, KC2NM, RARA Public Service Coordinator

When you read this article the final public service event for 2017 may be complete. The Rochester Museum and Science Center (RMSC) Holiday Science and Technology Days will be held Dec. 27-30 in partnership with RDXA. The goal is to expose young people to our hobby as well as topics in electricity, electronics, physics, and computers. RARA has had a successful year with public service events and a good level of participation by the members. The public service events give us exposure in the community for ham radio, a chance to hone our operating skills, and as many have said, "it was fun!"

We are starting to plan for the 2018 public service events and the following schedule has been submitted to the RARA board for adoption for the coming year.

Event Name	Start Date	End Date	Location
ADA Tour de Cure	6/9/2018	6/9/2018	Xerox Campus—Webster
Walnut Hill Driving Competition	8/8/2018	8/12/2018	Walnut Hill Farm
Bike MS: ROC the Ride	8/25/2018	8/25/2018	Genesee Valley Park
Fairport Lift Bridge Regatta	9/30/2018	9/30/2018	NYS Barge Canal—Fairport
Jamboree on the Air	10/19/2018	10/21/2018	Camp Babcock—Hovey
Pumpkin Patrol	10/30/2018	10/31/2018	Bridges of the NYS Thruway
RMSC Holiday Science Program	12/26/2018	12/29/2018	Rochester Museum and Science Center

Watch the RARA website for more details and a place to signup for these events. We welcome past participants as well as new participants to participate and learn more about the hobby.

WINTER KLONDIKE INCLUDES HAM RADIO

Mark Pedersen, KC2UES

The Boy Scout Winter Klondike will include Ham radio this year. The Winter Klondike, sponsored by the Bay Waters District, will be held on Friday through Sunday, January 26, 27, and 28, 2018, at Mendon Ponds Park. Set up will take place on Friday afternoon / evening and the boys will camp there overnight. On Saturday, they'll take part in 20 to 25 activities outdoors and indoors, one of which will be Ham Radio. Tim, WB2PAY will set up an HF antenna Friday afternoon and Mark KC2UES will bring his K3 to make contacts in the morning, and demonstrate Ham Radio to troops that will be cycling through from about 0900 until noon. Starting at 1300, we will offer boys the opportunity to make contacts to fulfill one of the Radio Merit Badge requirements. In the event of a lack of HF contacts, we will fall back on to a local simplex net with quiz questions about the Ham Radio demonstration the boys watched in the morning.

Mark will be manning the station all day, but could use assistance from other interested Hams. The station will be at Hopkins Lodge, indoors, and powered by AC. If you have an interest in helping out, please contact Mark at mpeder21@gmail.com.

The schedule starts with a flag ceremony and tribute to veterans starting at 0800 on Saturday, then the boys will attend the various events around that area of Mendon Ponds park. Lunch will be provided to adult volunteers, as well as hot coffee. Come join the Scouts and give them a look at Ham Radio in operation.

RARA RAGS OF THE PAST

Ed Gable, K2MP – RARA Club Historian

20 YEARS AGO, JANUARY, 1998



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VHF Contesting, the Old Fashioned Way

by Rick Wells, W2RW

It's January and that means VHF contesting time. The ARRL VHF Sweepstakes will be the third weekend this month. Get ready and get psyched! Come to the January meeting and learn about VHF contesting and awards chasing from the master, Bob Nezelek, W2CNS. Anyone remember what it was like before grid squares? Bob is going to discuss VHF contesting, the way it used to be and talk about some of the early VHF "dx"-peditions. I think he's going to tell us a bit about his big-gun station too. Just for starters, he's got two Rohn 45G towers at a fairly high elevation in the town of Victor. And to really wet your whistle, his 6 meter yagi boom is longer than some of our towers are high, not to mention the KW+ amplifier and two foot diameter bundle of hardline leaving the shack! Maybe if we're lucky, we can talk Bob into sharing some of his experience in achieving the many VHF/UHF awards decorating his walls.

This is for real. Bob is an accomplished VHF/UHF operator and DXer. He has VUCC on 50, 144, 432 and 1296 MHz, 6 and 2 meter WAS, and also has done 2 m and 70 cm moonbounce. Guess that 6 meter WAS was pretty easy compared to the 6 m DXCC that I've seen on his wall! If anyone has questions about VHF and UHF operating, Bob will be the guy to ask.

Please join us at the January 2nd meeting. Don't forget the location change to 111 Westfall. What a great way to start the 1998 season. See you there.

GLENWOOD AD PRINTED WITH ERROR

The Glenwood ad printed on the back page of the December 1997 Rag incorrectly stated that Glenwood had Saturday hours. The staff of the Rag was notified to change the ad, but the wrong one was printed. We apologize for any inconvenience this may have caused Glenwoods customers.

RaRa MEETING

January 2, 1998

8:00 P.M.

Monroe County Office Building
111 Westfall Road

VHF Contesting the Old Fashioned Way

RAPS

The Rochester Amateur Packet Society (RAPS) January meeting has been designated as beginners night. There will be several packet stations set up so that anyone attending the meeting will have an opportunity for "hands on" operation. The purpose of this meeting is to show anyone interested in packet just what it is all about. Even if you do not know anything about packet, come and find out exactly what is needed to get on packet. Most hams already have 75% of the equipment required. The meeting will be in the main floor auditorium of the Monroe County Social Services Building, 111 Westfall Rd., Thursday, January 8th, starting at 7:30 P.M. Hope to see lots of you there.

Jack Tripp, N2SNL

Next Rag Deadline

January 9, 1998

SILENT KEY

Donald H. Drennan
W2EBF
December 13, 1997

RARA Vice President and Program Chairman Rick Wells, W2RW, opened this issue telling that Bob Nezelek, W2CNS, would be the speaker for the next meeting. Bob's talk was on VHF contesting and awards unique to the world above 50 Mhz. Bob was absolutely qualified as the walls of his shack are covered with 50 through 1296 Mhz VUCC, six and two meter WAS, 2 meter and 70 cm moon bounce and 6 meter DXCC. Bob's talk would be at the 111 Westfall Road venue. Jack Tripp, N2SNL, wrote to invite folks to the next Rochester Amateur Packet Society (RAPS) meeting, also held at the Monroe County Social Services building. This was an open meeting to anyone wishing to see, hear and touch working hardware demonstrating the new packet mode. Lloyd Caves, WB2EFU, started a long series of articles detailing the Rochester Hamfest scheduled a mere 144 days away. The three day event starts with the Atlantic Division Affiliated Club Conference and then a three hour Skywarn training session. Next, K2ZI plans a program on RF Safety Standards followed by Bill Pasternak, WA6ITF, speaking on Newsline. Stay tuned for more hamfest content revealed in future issues. Keith Freeberg, N2BEL, penned an informative article where he revealed a new RARA incentive to introduce Amateur Radio to the public via an interactive display at the Rochester Museum and Science Center on January 3rd and 4th. Called the "RSMC Unwrapped" initiative, the joint venture would include live HF, packet and web site demonstrations. Within President George Lloyd's (N2UIO) column we find License Class Director Lynn Rosenberg, N2IZX, describing the next sessions. Also announced was the new licensing test fee that went up ten cents to \$6.35. With regret it was reported that Don Drennan, W2EBF, a RARA Past President, was reported a Silent Key. From the Want Ads you could buy a Heath SB-220 Linear Amplifier from W2RSU for \$400.00. Glenwood Sales of Hague Street, Rochester, a place where area amateurs used to

lurk about on Saturday mornings, remained a long term advertiser.

40 YEARS AGO, JANUARY, 1978

Program Chmn Len Gessin, WA2ZNC, wrote to inform you of not one, but two programs scheduled for January. First, we heard Jim Collinworth, N2JC, ARRL Section Emergency Coordinator (SEC) discussing plans for the upcoming annual Simulated Emergency Test, with a severe weather emergency being this year's theme. The second half of the meeting featured Mr. David Burke, of the Rochester Gas and Electric Company, who presented a film entitled "Energy Today and Tomorrow." Membership Chairman Bob Erskine, W2NVZ, told it like it was...pay your dues now or your membership expires. Long time Licensing Class Director Bob Lauzon, K2RL, announced his retirement in this issue and those words touched many in the local amateur community. For many years Bob's devotion to detail and making sure all students got whatever help they needed to pass, was the hallmark of his administration. At that time the class graduated 48 Fall Session students with Bob teaching the five and 13 WPM code while Ed Gable K2MP and Ed Holdsworth N2EH, ran the chalk boards. Writing for the Rochester VHF Group was Rich Place, WB2JLR, with the Group's annual cry to get on-the-air and beat the Philadelphia area Packrats Club. The Rochester Radio Repeater Association, RRRA, announced their next program via words from Rich Koehn, K2UW. Rich told attendees they would hear an interesting talk on FM Measurement Techniques by Duncan Brown, K2OEQ, of Harris/RF Communications. From and Want Ads you could buy an Aerotron 25 watt FM mobile rig from Dwight Hill, K2KWK. A new commercial advertiser was Harris/RF Communications with a large ad looking to hire Electronic Technicians.

VE TEAM

The next **ALWAYS FREE** testing session:

Saturday January 20th

Rochester Institute of Technology

Kate Gleason College of Engineering

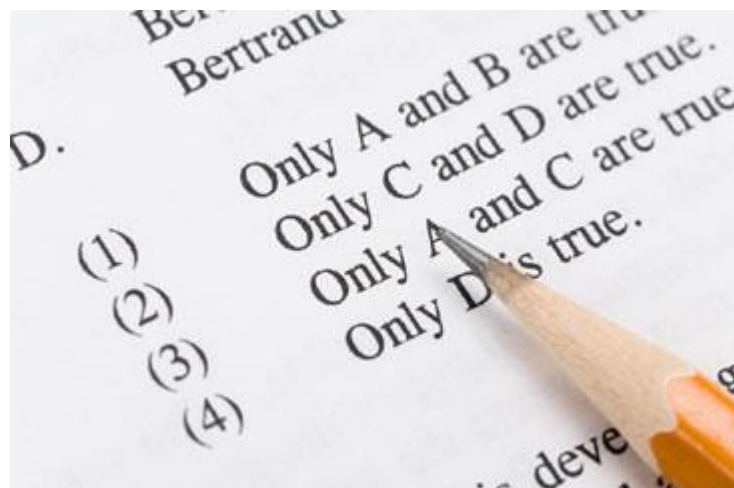
Gleason School of Engineering

Room 3139, Bldg. 9

Use "J" parking lot

Registration at 9:45AM

Testing at 10:00AM



You do not have to preregister.

To avoid giving your SSN go to:

<http://wireless.fcc.gov/uls/index.htm?job=home>

Register and bring the resultant FRN.

For more info:

<https://www.laurelvec.com/?team=RARA>

Don Kiser - AC2EV

RARA Board member

VE Team Leader

585-613-1035

Bruce Genut	KD2OJW	G	John Kotler III	KD2OJZ	G
William Leonard	KD2OQX	T	Kyle Mott	KD2MGF	G
Keshav Rakesh	KD2OQY	T	Matthew Mott	KD2MGM	G
David Connolly	KD2OQZ	G	William Finan III	KD2ORB	G
Justin Leitgeb	KD2ORA	T	Jed Katz	KD2ORC	T
Steven Coffey	KD2OWT	T	William Finan III	KD2ORB	E
Dwight Stone	KD2OWU	T	William Leonard	KD2OQX	G
Edward Michel	KD2NUD	G	Jae Cho	KD2OWX	T
Peter Skidmore	KD2OWV	T	Lynn Williams	AC2WI	E
Daniel Sheehan	KD2OWW	T			

New licensees names are in BOLD

RARA CALENDAR

Tim Barrett, K9VB

January 2018						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 IQRP Quarterly Marathon SARTG New Year RTTY Contest AGCW Happy New Year Contest QRP ARCI New Years Sprint	2 Phone Fray	3 RaRa Monthly Mtg 7:00pm, BSA HQ, B'ton Henrietta TLR ROC City Net 8:00pm 3.826 MHz UKEICC 80m Contest CWops Mini-CWT Test AWA Linc Cundall Memorial CW Contest	4 RaRa BoD Meeting 5:30pm, BSA HQ, B'ton Henrietta TLR ARES Net 146.61 MHz 7pm NRAU 10m Activity Contest NCCC Sprint	5 ASRAS Monthly Meeting 7.30pm, Gosnell Bldg, RIT NCCC Sprint	6 AWA Museum Open 1:00 – 5:00pm AWA Linc Cundall Memorial CW Contest PODXS 070 PSKFest WW PMC Contest ARRL RTTY Roundup Kid's Day Contest EUCW 160m Contest
7 WW PMC Contest ARRL RTTY Roundup EUCW 160m Contest	8	9 Phone Fray	10 ROC City Net 8:00pm 3.826 MHz CWops Mini-CWT Test	11 ARES Net 146.61 MHz 7pm NCCC Sprint	12	13 AWA Museum Open 1:00 – 5:00pm YB DX Contest Old New Year Contest UBA PSK63 Contest SKCC Sprintathon NA CW QSO Party
14 UBA PSK63 Contest SKCC Sprintathon NA CW QSO Party NRAU-Baltic Contest DARC 10-Meter Ctest Midwinter Contest	15	16 SIARC 7.30pm RDXA 7:30pm Phone Fray	17 ROC City Net 8:00pm 3.826 MHz CWops Mini-CWT Test	18 ARES Net 146.61 MHz 7pm NCCC Sprint	19	20 AWA Museum Open 1:00 – 5:00pm Hungarian DX Contest NA QSO Party, SSB ARRL VHF Contest WAB 1.8 MHz Phone Feld Hell Sprint
21 Hungarian DX Contest NA QSO Party, SSB ARRL VHF Contest Feld Hell Sprint Classic Exchange, CW	22 Classic Exchange, CW	23 Phone Fray Classic Exchange, CW	24 ROC City Net 8:00pm 3.826 MHz CWops Mini-CWT Test	25 Monroe Cty ARES 6pm, Red Cross Center, Prince St NCCC Sprint	26	27 AWA Museum Open 1:00 – 5:00pm CQ 160-Meter CW Ctst Montana QSO Party REF Contest, CW Winter Field Day UBA DX Contest, SSB
28 CQ 160-Meter Contest, CW REF Contest, CW Winter Field Day UBA DX Contest, SSB	29	30 Phone Fray	31 ROC City Net 8:00pm 3.826 MHz CWops Mini-CWT Test UKEICC 80m Contest			

Print this calendar and leave it by your radio.

SAVE THE DATES

Winterfest - Saturday February 10, 2018 - Stewart Lodge, Mendon Ponds Park

Picnic - Saturday July 14, 2018 - Stewart Lodge, Mendon Ponds Park

Banquet - Friday September 21, 2018- Burgundy Basin Inn

NEWS FROM AREA CLUBS

MONROE COUNTY ARES / RACES NEWS

The Monroe County Amateur Radio Emergency Service, Inc. holds its meetings on the fourth Thursday of each month except for the month of November during which we meet on the third Thursday to celebrate Thanksgiving Holiday. Anyone interested, members and non-members, are welcome to attend.

Because of the holidays there will not be a meeting in December.

The next ARES Meeting will be held on: **Thursday, January 25, 2018, at 6:00 PM.**

Meetings are held at the **Greater Rochester Chapter of the American Red Cross HQ, 50 Prince Street, Rochester, NY 14607.** (Located behind the Rochester Auditorium Theatre, 885 Main St. E.)



ARES NET:

Monroe County ARES/RACES meets on the air every Thursday of the month at 7:00 pm, on the 146.61 MHz (-) 110.9 Hz PL repeater. The only exception to that are nights when we hold our regular meeting, generally on the 4th Thursday of the month.

WEB: www.monroecountyemcomm.org

Severe Weather Alerts:

Winter brings severe weather in the form of heavy snow and strong winds. If you experience severe weather, especially when accompanied by damage to property in your area, listen to your local ARES/RACES repeaters for information. While official ARES/RACES activation could be a possibility, it is more important that we open a spontaneous net simply to share information about weather conditions in your immediate area. Don't wait for someone else to do it. Pick up the microphone and start a net. Have each check-in station give you a situational awareness report and emergency power report. If you don't have a copy of the directed net protocol, you can find one at the WEB address listed above. (Activities/ARES Net/ Net Script/ Downloads)

NBEMS:

Want to learn about Narrow Band Emergency Messaging System (NBEMS)? It's the latest and easiest way to "Go Digital!" Bring your laptop computer and 2-M handheld transceiver. We will conduct an NBEMS clinic after every meeting through June 2018.

ROCHESTER DX ASSOCIATION, RDXA

RDXA meets the 3rd Tuesday of every month (September through May) except for December, which is the Annual Holiday Banquet. Meetings are open to everyone and all are encouraged to attend.

Meetings are held at the Monroe County EOC 1190 Scottsville Rd. (second floor), Rochester, NY 14624 at 7:30PM.



For the January presentation, "Worldwide DXer" Dave Farnsworth, WJ2O will be giving a presentation on one of his most recent expeditions, Mellsih Reef (VK2MA).

ROCHESTER RADIO REPEATER ASSOCIATION, RRRRA

The Rochester Radio Repeater Association, RRRRA invites you to attend its January 19, 2018 meeting. Meetings are held on the 3rd Friday of the month in the Pittsford Town Hall Basement starting at 7:30 PM.

December's meeting was canceled in favor of a lunch at Golden Corral. RRRRA's January's meeting will be on Video streaming formats and programming sources. Plus Members from the Rochester VHF Group may be giving a presentation on the upcoming January VHF Sweepstakes. The January Sweepstakes is one of the few VHF / UHF contests that offers an ARRL award for FM activity. Even an HT can get you in on the excitement. You will get to see how far you can communicate. You can either join the contest or hand out points to those that are working the contest. Come and get the details at our January meeting.

The RRRRA officers are Bob Shewell, N2HJD President, Bob ODell, N2BZX Vice President, ED Wilkonski, KC2WM Secretary, and Bob Smith, NS2B-Treasurer / Membership Chairman. RRRRA also accepts donations to the club. If you are not currently a member and want to support RRRRA, you can join at our monthly meeting or on our web site www.k2rra.org

ROCHESTER VHF GROUP

The Rochester VHF Group sponsors an informal On-Air Net every Monday at 2100 local time on 144.260 MHz USB and a 6 Meter Net every Thursday at 2100 local on 50.200 MHz USB.

More club information can be found by visiting www.rvhfg.org or just calling in any Monday or Thursday night. All are welcome to check in to these nets.

XRX AMATEUR RADIO CLUB

The next meeting of the XRX Amateur Radio Club will be at 6PM on Thursday January 11, at the Webster Recreation Center. Check our website at <http://xarc.us> for the latest info.

SQUAW ISLAND AMATEUR RADIO CLUB, SIARC

The Squaw Island Amateur Radio Club (SIARC) meets every second Wednesday of the month at 7:30PM at the Ontario County Safety Training Facility, 2914 County Road 48, Town of Hopewell. We have License Exam Testing every other month which begins at 6:30PM. The next meeting will be on Wednesday, January 10th. There will be License Exam Testing at 6:30 PM. 73's Steve Benton VP SIARC WB2VMR

AMATEUR RADIO ASSOCIATION OF THE SOUTHERN TIER

ARAST meets the third Thursday of every month at the Town & Country Fire house in Horseheads. C-CARES meets the first Tuesday of the month except February. C-CARES covers the entire area in Chemung, Schuyler and Steuben Counties and everyone is welcome.

Don't forget to mark your calendars for next years hamfest September 29, 2018 located at the Chemung County Fairgrounds in Horseheads, NY. Tickets will be available from any board member and online at our website as we get closer to the venue date. Also need Communicators for the Wine Glass Marathon for 2018. The date has been set for the Sunday following the Hamfest (September 30, 2018). If you can help out, contact the Emergency Coordinator at emergencycoordinator@stny.rr.com as soon as you can. EMO needs to be notified who's out there.

Our website is almost complete undergoing construction. I understand that until the re-write is complete, it will still be usable. Look for the transition to take place after the Wineglass Marathon So go ahead and check out our website at www.arast.org.

Don't forget to check out our repeaters when you come into the area: The N3AQ 147.36(+); W2ZJ-V

COMMUNITY AMATEUR RADIO CLUB, CARC

If you are interested in being a part of this forward thinking and active club, visit us at a meeting or join us on one of our weekly nets. We meet at the Hoag Library (134 S. Main St. Albion, NY) on the first Saturday of each month at 7pm. Each meeting has a brief training/refresher period with upcoming topics including: net protocol, repeater set-up/maintenance, and digital signaling. The club holds a net every Sunday evening at 8pm (winter) and 9pm (summer) - 0100 UTC Monday - on 147.585 simplex, and we host the Thursday Night Social Net, Thursday at 8:30pm on 147.285+. We'd love to hear you check-in! Take a look at the club website for more info: www.k2srv.org

DIGITAL COMMUNICATIONS ASSOCIATION OF PERINTON, DCAP

DCAP members continue to experiment with leading edge digital communications modes. We were formed in 1994 to foster the development of local and regional packet radio networks using AX25 and TCP/IP. Today we have members using the club sponsored DSTAR repeater (KB2VZS on 444.8MHz), several personal and public [DSTAR hotspots](#) (using the dvrptr board), Yaesu fusion systems on non-club repeaters and DMR. The last mode is being enjoyed locally through a [DV-Mega-Raspberry PI](#) combination. DCAP meets for breakfast at 7am nearly every Saturday morning at [Rikki's Family Restaurant](#) in Fairport and everyone is welcome to join us. Talk in is on the KB2VZS analog repeater on 146.715MHz with a PL of 110.9 Hz.

WESTSIDE AMATEUR RADIO CLUB

The mission of the Westside Amateur Radio Club is to provide emergency communications services to the community, to assist other civic organizations, to promote the technical craft of amateur radio through class training and testing, to mentor new members, and enhance fellowship among radio amateurs.

The Westside Amateur Radio Club meets on the second Wednesday of the month at the Chili Public Library. The Library is located at 3333 Chili Ave, Rochester, NY 14624.

The talk in repeater for all meetings is the K2RWC Repeater 146.700MHz - 110.9

Website: <http://WestsideAmateurRadio.club>

INTERLOCK ROCHESTER - K2HAX - ROCHESTER'S HACKERSPACE

Interlock Rochester is open most every Tuesday night at 7pm. We're in the Hungerford Building (1115 East Main Street, Rochester NY), just north of Village Gate. Come to Door #7 (to the left of Comics Etc) and buzz Suite 200. Want to know more? Visit our website at <http://www.interlockroc.org/>, contact us at info@interlockroc.org, or find us in #interlock on Freenode IRC.

GENESEE VALLEY AMATEUR RADIO ASSOCIATION

Email n3dsp@lafireline.net for details.

ROCHESTER MAKERSPACE

The Rochester Makerspace is located at the rear of 850 St. Paul Street in almost 4,000 square feet of workspace. We are a volunteer-run 501c(3) nonprofit organization and our mission is to encourage learning, creativity and collaboration. We do that by providing low-cost and free access to sophisticated tools, offering a wide variety of classes, and by providing opportunities for "makers," artists and crafts persons of all kinds to meet and learn from each other.

Drop in to explore, learn and make at our weekly open house:

Every Thursday Night, 6 to 10 PM – Weekly Community Night & Open House

Every Saturday, 11 AM to 3 PM – Weekly Community & Open House

Park in the lot at Scrantom St. and Conkey Ave. and follow the signs.

Every Thursday Night, 7 to 9:30 PM – Microcontrollers & Robotics Meetup

A ham bench is set up with a 2 meter FM radio and a laptop with websdr. Waiting for nicer weather to install outside antennas for the Heathkit HW101 transceiver and Kenwood all mode 2 meter transceiver. Donations of ham equipment accepted.

For more information visit Rochestermakerspace.org

ASTRONOMY SECTION ROCHESTER ACADEMY OF SCIENCE

For more information visit <http://www.rocheasterastronomy.org/>

THE AMATEUR'S CODE

Originally written by Paul M. Segal, W9EEA (1928)

THE RADIO AMATEUR IS:

CONSIDERATE	Never knowingly operating in such a way as to lessen the pleasure of others.
LOYAL	Offering loyalty, encouragement and support to other amateurs, local club, and the American Radio Relay League, through which Amateur Radio in the United States is represented nationally and internationally.
PROGRESSIVE	With knowledge abreast of science, a well built and efficient station and operation beyond reproach.
FRIENDLY	With slow and patient operation when requested, friendly advice and counsel to the beginner, kindly assistance, co-operation and consideration for the interests of others. These are the hallmarks of the amateur spirit.
BALANCED	Radio is an avocation, never interfering with duties owed to family, job, school or community.
PATRIOTIC	With station and skill always ready for service to country and community.

VISIT THE RARA WEBSITE!

Did you know that your club's website (www.rochesterham.org) offers these features and more?

- Photos of meetings & events (you might be in there!)
- Info on upcoming meetings/programs
- Rochester Hamfest information!
- Online membership & renewal
- Track and redeem your Reward Points
- Public service info & sign-up
- VE testing info
- Back issues of the RAG in PDF
- Officer contact
- List of past presidents
- Online membership directory
- Useful Internet links



RARA MARKETPLACE

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	- 8.6 x 3.5	\$600

The above prices are **per year** - not per month as is typical in other publications.

Your advertisement will be seen by amateurs in Rochester, Monroe County, New York State, the United States and even the rest of the world. RAG circulation is approx. 4,500.

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OFFICERS

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FEBRUARY RAG DEADLINE

JANUARY 15, 2018



**RARA meets at 7PM on the
first **Wednesday** of each
month. Join us at:**

Seneca Waterways Council, BSA Headquarters

2320 Brighton Henrietta Town Line Rd

Rochester, New York 14623

Get Directions

Rochester Area Repeater Listing

THE RARA RAG

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